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REQUIRED OPERATIONAL CAPABILITY USMC-ROC-LOG-21635 FOR
THE RATION COLD WEATHER(U) MARINE CORPS WASHINGTON DC
06 MAY 87 USMC-ROC-LOG-216 3 5

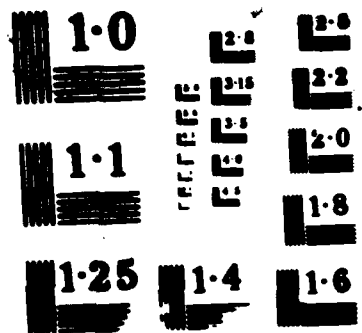
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From: Commandant of the Marine Corps

Subj: REQUIRED OPERATIONAL CAPABILITY (ROC NO. LOG 216.3.5) FOR
THE RATION, COLD WEATHER

Ref: (a) MCO 3900.4C

Encl: (1) ROC No. LOG 216.3.5 for the Ration, Cold Weather

1. In accordance with the procedures set forth in the reference, the ROC for the Ration, Cold Weather is hereby established and promulgated.

2. The Commanding General, Marine Corps Development and Education Command (Director, Development Center), Quantico, Virginia, 22134, is the Marine Corps point of contact for any questions pertaining to this ROC and any development efforts pertaining thereto.

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RAY "M" FRANKLIN
Major General U.S. Marine Corps
Deputy Chief of Staff for Operations

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REQUIRED OPERATIONAL CAPABILITY (ROC NO. 216.3.5)

FOR THE RATION, COLD WEATHER

1. STATEMENT OF THE REQUIREMENT. The Marine Corps has an ongoing requirement to provide nutritious meals containing the required caloric content to FMF units operating away from established or semi-permanent field feeding facilities. The introduction of a cold-weather ration into the Marine Corps field feeding system will provide the individual Marine with a ration that contains the 4,500 calories per day required for cold-weather operations. A compact, non-freezing ration is required to enhance cold-weather operations flexibility. The required initial operational capability (IOC) is FY87. The desired full operational capability (FOC) is FY88.

2. OPERATIONAL DEFICIENCY. Subsistence rations currently in use (i.e., meal, ready to eat (MRE), food packet, long range patrol (LRP), and the food packed, assault (FPA)) do not meet the caloric requirement and are not adequate for use in an arctic environment because of their high sodium content. Additionally, the high moisture content of the MRE makes it unacceptable in an arctic environment due to its tendency to freeze. Current rations are too bulky or heavy and deny space required for other mission-essential equipment.

3. OPERATIONAL AND ORGANIZATIONAL CONCEPT

a. Operational Concept. The ration, cold weather will provide 4,500 calories per day which is sufficient for troops involved in operations or training in an arctic environment.

b. Organizational Concept. The ration, cold weather will be issued in accordance with established class I supply/resupply procedures as a replacement for the MRE to units operating in arctic conditions. There will be no special training or logistic support required.

4. ESSENTIAL CHARACTERISTICS

a. The ration, cold weather will:

(1) Have a weight/volume of no more than 1,250 grams and 225 cubic inches respectively.

(2) Be consumable as is or be hydrated with water.

(3) Be able to be used/stored in temperatures from -60°F (-51.1° C) to 100°F (37.8° C) per current joint requirements.

(4) Meet the nutritional standards and energy allowance (4,500 calories) for a cold environment prescribed by the Surgeon

General, Department of the Army (TSG, DA) as the DoD Executive Agent for Nutrition (AR 40-25/NAVMEDCOMINST 10110.1/AFR 160-95).

(5) Contain food items that will not cause unacceptable loss of efficiency, endurance, or sense of well-being; will not interfere with satisfactory performance of the mission; and will not cause physiological damage.

(6) Be packaged in a flat, flexible, camouflaged, and waterproof container.

(7) Be easy to open without any special tools or techniques. The ration should be usable while wearing gloves.

(8) Not freeze.

(9) Be shelf-stable for 3 years or more at ambient temperatures.

(10) Be of sufficient variety to achieve the widest acceptability.

(11) Be packaged to permit biological or chemical decontamination and subsequent consumption of the contents.

(12) Contain beverage powders/crystals/mixes to encourage liquid consumption.

b. Survivability to nuclear blast is not required.

c. Reliability, Availability, Maintainability (RAM), and Durability

(1) Reliability. Not applicable.

(2) Availability. Not applicable.

(3) Maintainability. Not applicable.

(4) Durability. The ration, cold weather components and packaging shall be durable enough to withstand shipping/handling activities.

5. INTRA/INTEROPERABILITY AND STANDARDIZATION REQUIREMENTS. Not applicable.

6. RELATED EFFORTS. The ration, cold weather is a Department of Defense, Food Nutrition, Research and Engineering Board approved project and is funded directly by the DoD. This requirement is therefore a joint requirement whose RDT&E will be funded and managed as a joint effort for all services.

7. TECHNICAL FEASIBILITY AND ENERGY/ENVIRONMENTAL IMPACTS

a. Technical Feasibility. The risk of developing the ration, cold weather is low.

b. Energy Effectiveness Impact. Development of the ration, cold weather will not adversely impact upon energy-critical materials.

8. LIFE CYCLE COST FORECAST. See annex A.

9. MANPOWER REQUIREMENTS. Not applicable.

10. TRAINING REQUIREMENTS. Not applicable.

11. AMPHIBIOUS/STRATEGIC LIFT IMPACT. A total decrease of 90 cubic inches per man-day of ration and a total decrease of 14 ounces per man-day of weight per ration is anticipated.

LIFE CYCLE COST FORECAST

FUNDING PROFILE

In Thousands of FY87 Constant Budget Dollars

(FYDP Dollars in Parentheses)

(1 Oct 85 Escalators)

10 YEAR LIFE CYCLE

	PRIOR YEARS	CURRENT YEAR	BUDGET YEAR	FY88	FY89	FY90	FY91	FY92	TO COMPL'N	TOTAL PROGRAM
Major System										
RDT&E	0	0	0	0	0	0	0	0	0	0
FYDP Dollars	(	0)(	0)(	0)(	0)(	0)(	0)(	0)(
MPMC	0	0	0	2,132	2,468	420	840	420	3,360	9,639
FYDP Dollars	(	0)(	0)(	2,139)(	2,486)(	425)(	852)(	428)		
QTYs FUNDED	0	0	0	203,000	235,000	40,000	80,000	40,000	320,000	918,000
Support										
Support MPMC	0	0	0	21	25	4	8	4	901	964
FYDP Dollars	(	0)(	0)(	21)(	25)(	4)(	9)(	4)		
MILCON	0	0	0	0	0	0	0	0	0	0
FYDP Dollars	(	0)(	0)(	0)(	0)(	0)(	0)(	0)		
O&MPC	0	0	0	9	10	10	10	11	42	92
FYDP Dollars	(	0)(	0)(	9)(	11)(	11)(	11)(	13)		
PMC	0	0	0	0	0	0	0	0	0	0
FYDP Dollars	(	0)(	0)(	0)(	0)(	0)(	0)(	0)		
NAVY PROC	0	0	0	0	0	0	0	0	0	0
TOTAL PROGRAM	0	0	0	2,162	2,502	434	858	435	4,303	10,695
FYDP Dollars	(	0)(	0)(	2,170)(	2,521)(	440)(	872)(	445)		

Major System: Arctic Ration

Date: 04-13-1987

LIFE CYCLE COST ESTIMATE
(In Thousands of FY87 Constant Budget Dollars)
(1 Oct 85 Escalators)

10 YEAR LIFE CYCLE

PHASE/CATEGORY	SUBCATEGORY	CATEGORY	PHASE
I. RDT&E PHASE			0
II. INVESTMENT PHASE			9,639
1. SYSTEM PRODUCTION/PROCUREMENT		9,639	
A. Major End Item (Contractor)	9,639		
B. Initial Provisioning/Spares, Repair Parts	0		
C. Government Furnished/Added Equipment	0		
D. Other Direct System Costs	0		
2. SUPPORT EQUIPMENT PROCUREMENT		0	
A. Ammunition	0		
B. Weapons and Tracked Combat Vehicles	0		
C. Guided Missiles	0		
D. Comm-Elec Equipment	0		
E. Support Vehicles	0		
F. Engineer and Other Equipment	0		
3. MILITARY CONSTRUCTION		0	
III. OPERATIONS AND SUPPORT PHASE			1,056
1. OPERATIONS		0	
A. Operator Personnel/Training	0		
B. Material Consumption	0		
C. Energy Consumption	0		
2. MAINTENANCE		964	
A. Organizational Maintenance	0		
1) Personnel/Training	0		
2) Maintenance Material	0		
3) Repair Material	0		
4) Other	0		
B. Intermediate Maintenance	0		
1) Personnel/Training	0		
2) Maintenance Material	0		
3) Repair Material	0		
4) Other	0		
C. Depot Repair	0		
D. Depot Overhaul	0		
E. Unprogrammed Losses	964		
F. Software Maintenance	0		
3. INDIRECT SUPT, BASE OPS & MAINT, OTHER O/H COSTS		92	
A. Base Operations	92		
B. Other Overhead Costs	0		
4. SUPPORT EQUIPMENT O&S		0	
TOTAL LIFE CYCLE COSTS			10,695

END

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